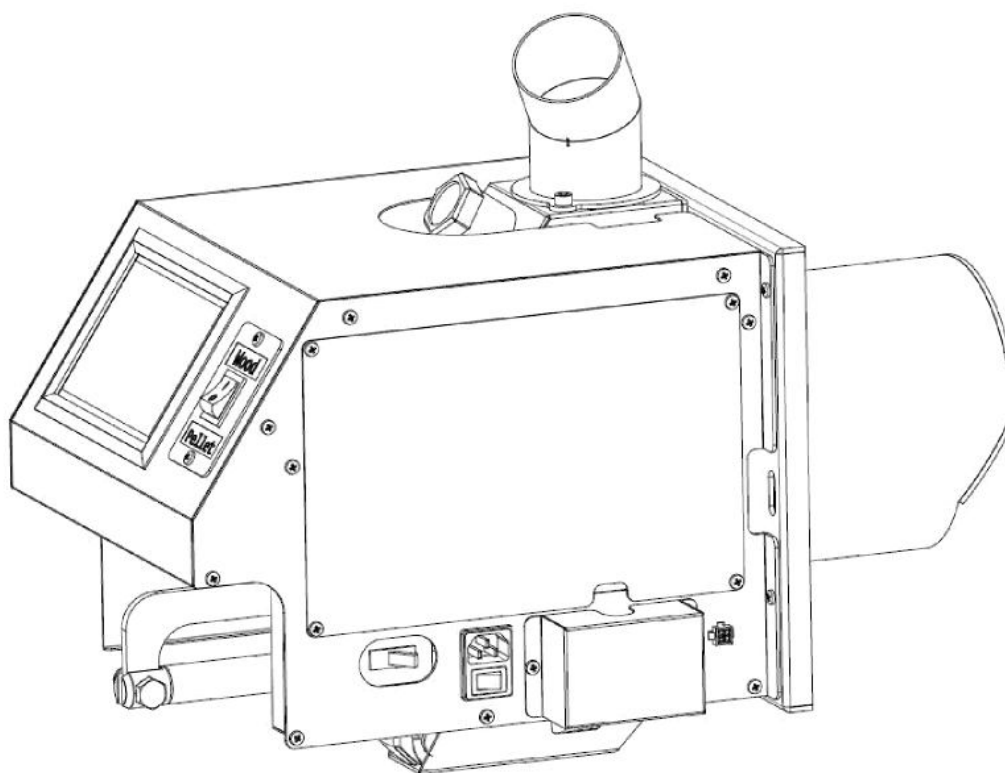


# Installation & Operation Instructions

## KRPB-20A Wood Pellet Burner



**Kiturami**

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# Major Safety Instructions

1. Read and fully understand and comply with the instructions on installation before installing and operating the product to prevent accident or damage to the product.
2. If you are not capable of fully understanding and handling parts or products specifically designated in the user's manual, do not attempt repair of the products or replacement of parts.
3. The user of this product shall fully understand how to operate the product and exercise care for the safety of the product.
4. Carefully read the installation manual for correct assembly, installation, and maintenance of the pellet burner.
5. Failure to comply strictly with these guidelines may cause fire, explosion, serious injury, or damage to property. This product shall be installed and repaired by a qualified engineer only.
5. Installation/Operation using incorrect methods or installation by a non-qualified engineer will void the warranty.
6. Using fuel other than the specified fuel may not guarantee the correct operation of the pellet boiler described in the technical datasheet and will have adverse effects on the operation of the boiler, shortening the lifecycle of the boiler.
7. The manufacturer shall not be responsible for the consequences of misuse of the pellet burner by feeding fuels other than the specified fuels.

Read the manual carefully,  
and then store it in a safe  
place.

## SYMBOLS USED IN THE MANUAL

	<p><b>ATTENTION</b></p> <p>This warning sign indicates that the message to which it refers should be carefully read and understood, because failure to comply with what these notices say can cause serious damage to the burner and put the user's safety at risk.</p>
	<p><b>INFORMATION</b></p> <p>This symbol is used to highlight information which is important for proper burner operation. Failure to comply with these provisions will compromise use of the burner and its operation will not be satisfactory.</p>

# Configuration of the Product

## ■ Burner box: 1 set

Part name	Quantity
KRPB-20A pellet burner assembly	1
User Manual	1
Indoor temperature controller (CTR-5700 PLUS)	1
Stainless steel band (for fuel feeding hose, $\varnothing$ 75 mm)	2
Fuel hose $\varnothing$ 75 mm x 1,000 mm	1
Wiring for connection to the temperature sensor and low level sensor	1 set
Wiring for connection to the feeder	1 set
Gasket (306 mm x 263 mm)	1
Power cable	1
Burner ash tray	1 set

## ■ Feeder box: 1 set

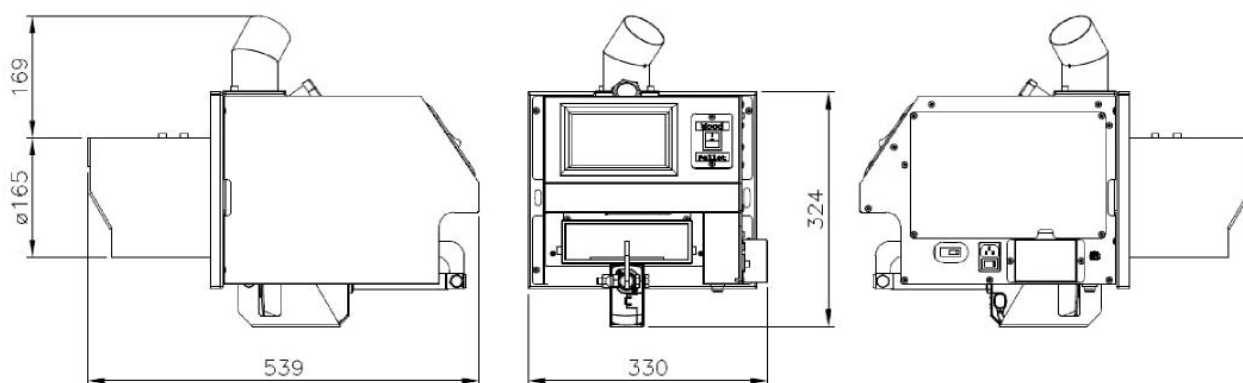
Part name	Quantity
KRPB-20A feeder	1 set
Screw for fastening the limit switch (M3)	4
Limit switch	1
Limit switch bracket	1
Limit switch gasket (red silicone)	1

# Product Characteristics and Specifications

## ■ Product Characteristics

The product is a burner boiler designed to use firewood as well as wooden pellet. An automatic ash recycling unit is applied (when using pellets) for easy cleaning, which is the biggest shortcoming of the boiler consuming solid fuel. The product operates for a prolonged period of time without the need to empty and clean the ash tray at the burner. The most advanced control system is mounted on the product, triggering the shutdown function whenever trouble is detected on the system to ensure the safe operation of the product.

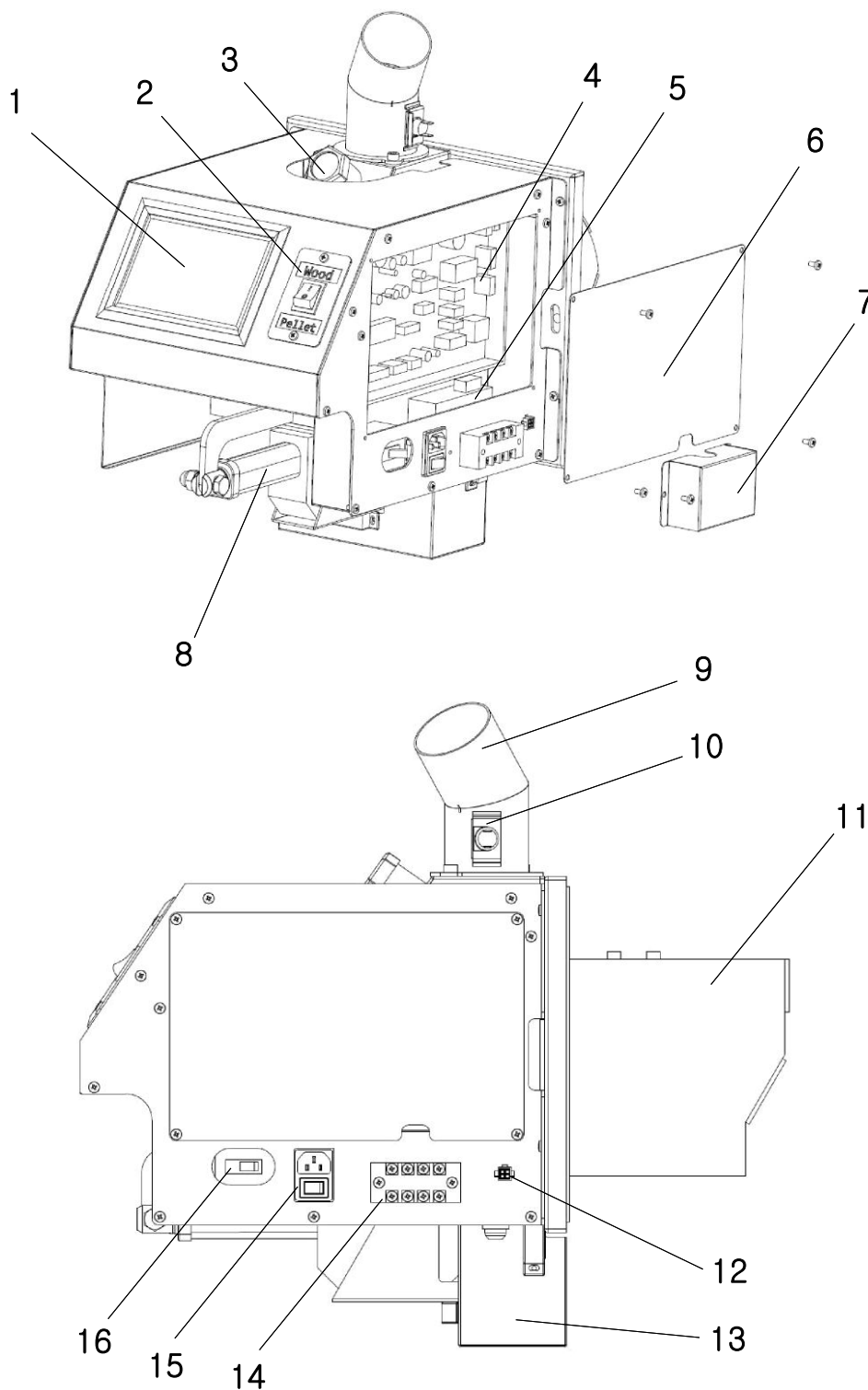
## ■ Specifications and Dimensions of the Product



Model	KRPB-20A
Fuel	ø6mm Compressed Wood pellet ※ Calorific power : 4.9Kw/kg(4,214Kcal/kg) Water content : max 10% of weight Percentage of ashes : max 1% of weight
Maximum length of pellet	32mm
Heat Output range	23.2~29Kw(20,000~25,000kcal/h)
Max. electric input	450W
Voltage / Frequency	230V / 50 Hz
Range of water temperature setting	60~80℃
Stand by power	4W

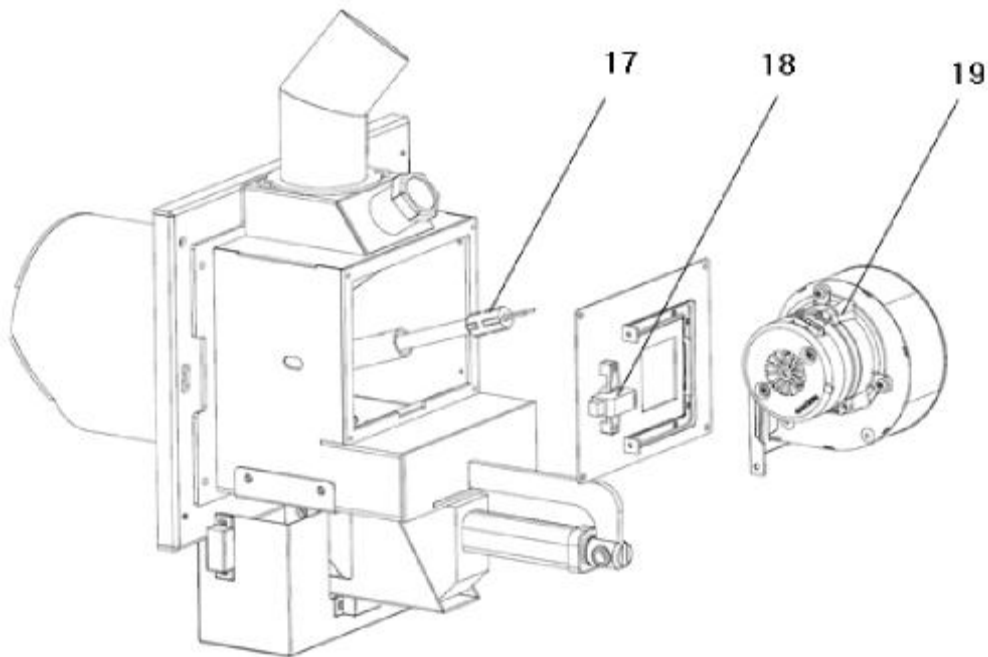
The actual product may differ from the images in the manual.

# Names of Components



The actual product may differ from the images in the manual.

# Names of Components



- |   |   |
|---|---|
| 1. Aux. controller (HOT-4000P)                      | 11. Burner tube   |
| 2. Function conversion switch (pellet <-> firewood) | 12. Connections of low level sensor and temperature sensor  |
| 3. Flame window                                     | 13. Burner ash tray   |
| 4. Main controller (PW-140)                         | 14. Terminal block (circulation pump, feeder connection-AC) |
| 5. Operation detector                               | 15. Connection of power cable (AC)                          |
| 6. Controller lid                                   | 16. Breaker for ignition heater (AC)                        |
| 7. +Controller lid                                  | 17. Ignition heater (AC)                                    |
| 8. DC actuator                                      | 18. Flame sensor (DC)                                       |
| - For the automatic re-cleaning of the fire grate   |   |
| 9. Fuel feeding port                                | 19. Blower (DC)   |
| 10. Overheat bimetal                                |   |



# Installation

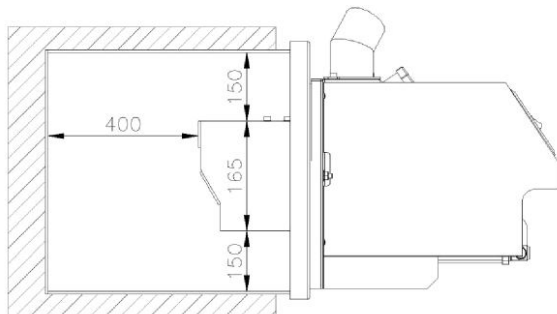


## ■ Applicable Boilers

The following requirements of the boiler shall be satisfied:

1. The static pressure inside the burning chamber shall be kept at 5 mmAq during the rated burning of the boiler.

2. The minimum space of the combustion chamber for mounting the burner shall be as follows:



3. Though the burner may be mounted on the body of the boiler for oil burning, the boiler must have an hole for cleaning the combustion chamber without disassembling the burner.

4. Every door installed for the maintenance of boiler shall be airtight.

## ■ Requirements for the Boiler Room

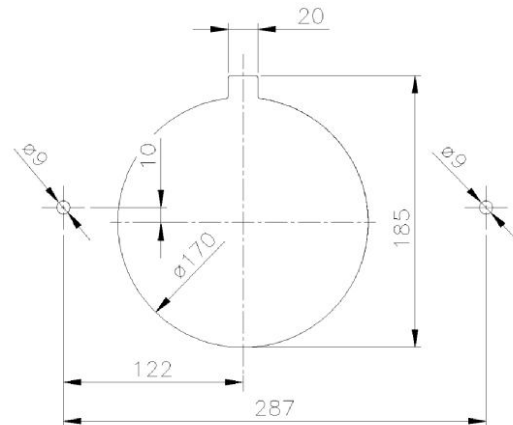


The boiler room has an opening for supplying outdoor air into the room to feed sufficient air to the burner.

The size of the opening shall be equal to or larger than the cross section of the chimney.

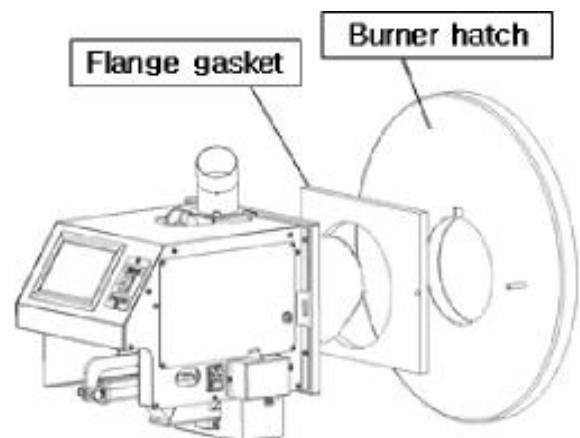
## ■ How to Assemble the Burner

1. The surface for mounting the burner shall accommodate a hole with the following dimensions for connecting the burner (M8 x 40 mm bolts shall be welded on the hole of  $\phi 9$  facing forward):



2. Assemble the flange gasket and the burner on the burner hatch as shown in the figure below.

Fasten the burner with M8 nuts and adjust the burner to the left and right to keep the burner horizontal.







# Installation



## ■ Fuel Storage Device

The user shall provide a hopper-type storage tank for storing wooden pellets to use the product. The recommended minimum capacity of the fuel storage tank is 300 liters (180 kg of fuel).

## ■ Connection of electric apparatus (See page 6)

### 1. Connecting the power cable

Connect the power cable supplied together with the product to the power supply cable connection of Item 15.

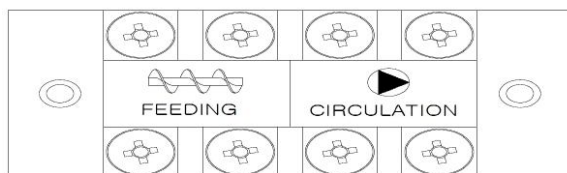
Turn the switch to "ON (-)" position under the cord after connecting the power cable to supply power to the product.

### 2. Connection of feeder and circulation pump

Remove the terminal block cover on the lower right of the burner, and then connect the wires of the feeder and circulation pump to the portion under the terminal block (4-pin) as shown in the figure.

Finish the ends of the wires with Y-type terminals.

Wiring shall be performed only after shutting down power supply.



### 3. Connection of low level sensor and temperature sensor

Connect the wires supplied together with the product to the connections of the low level sensor and the temperature sensor.

## ■ How to Install the Feeder

The exclusive feeder shall be used to obtain correct output from the KRPB-20A pellet burner.

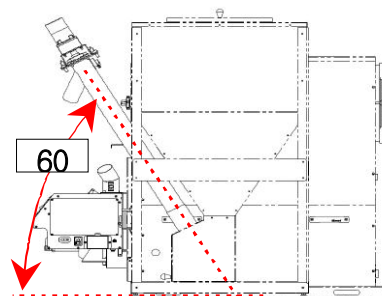
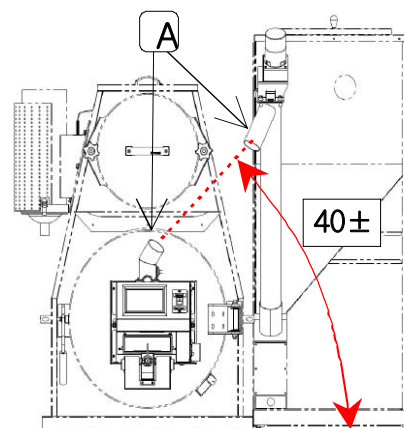
The installation angle is critical when installing the feeder.



Be sure to comply with the dimensions and instructions below.

1. Connect the fuel hoses supplied together with the product to the fuel feed port and the discharge port at point A.

2. Make use of the stainless steel bands to fasten the hoses securely to prevent leak of air or fuel.

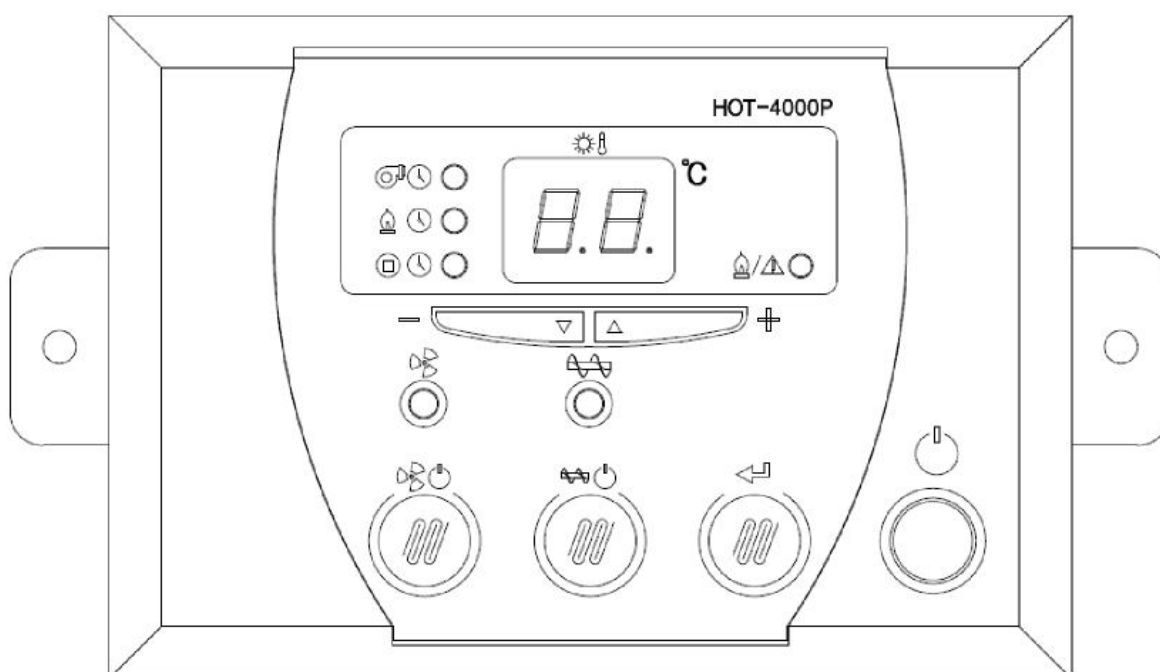


# Aux. Controller (HOT-4000P)















## ■ Electric Properties

Rated power	230 Vrms±15%
Input frequency	50 Hz ± 5%
Max. power consumption	1 kW
Max. humidity limit	90%@40℃
Operating temperature scope	-10℃~60℃
Storage temperature scope	-20℃~80℃

## ■ Names and Description of Parts



## Aux. Controller (HOT-4000P) – for pellet function

Name		Symbol	Function	
Power/Restart			* Controller power button (Turning the button off stops fuel feeding; the fan operates for 10 minutes and stops.)	
Setting			* Used for every setup	
Manual fuel feeding button			Power on	No function operating
			Power OFF	Press the button for 5 seconds to switch to manual mode.
Manual fan operation button			* Manual ON/OFF of fuel feeding in manual mode	
			* Turn ON for 3 min. only in manual mode; the duration is displayed in minutes. * Turn the power button ON and then OFF to release the manual mode.	
UP/DOWN(-/+)UP/DOWN (-/+)			Power on	No function operating
			Power OFF	Press the button for 5 seconds to switch to manual mode.
Manual fan operation button			* Manual ON/OFF of fan in manual mode	
			* Turn the power button ON and then OFF to release the manual mode (FND ON/OFF displayed in manual mode).	
UP/DOWN(-/+)UP/DOWN (-/+)			* Sets the fuel feeding duration - Sets the initial stop duration in seconds and operation duration in one-tenth second	
Fuel feeding LED			* Lights up upon sensing the fuel feed load	
FAN LED			* Lights up upon sensing the fan load	
Fuel feeding	Initial time		* LED lights up when checking the initial fuel feeding time and setting. (Set from 1 to 99 sec.)	
	Operation hours		* LED lights up when checking the fuel feeding time and setting. (Set from 0.1 to 9.9 sec.)	
	Stop Time		* LED lights up when checking the fuel feeding stop time and setting. (Set from 1 to 99 sec.)	
Operation/Alarm LED			* Blinks upon alarm triggering (0.5 sec. ON, 0.5 sec. OFF)	
LED DISPLAY			* Displays the water temperature, initial startup, operation and stop time, and safe shutdown * Displays increment by 1°C (0°C ~ 99°C) (Time displayed in manual mode)	

The actual product may differ from the images in the manual.

## Aux. Controller (HOT-4000P) – for pellet function

### ■ How to Set Initial Fuel Feeding, Operation during Fuel Feeding, and Fuel Feeding Stop Time













(default settings: 30 for initial fuel feeding; 11 for operation; and 07 for stop)

- Pressing the UP/DOWN button each time lights up the Initial, Operation, and Stop LEDs in sequence and displays the settings on the LED Display.
- Keep pressing the setting button for five seconds or more; the LED for the desired time setting is turned ON, and the numeric values blink on the display.
- Keep pressing the UP/DOWN button until the desired setting is displayed. (If there is no input signal for ten seconds, the setting is automatically returned to the default configuration and stored.)
- Initial fuel feeding (set from 1 to 99 sec)
- Operation during fuel feeding (set from 0.1 to 9.9 sec)
- Fuel feeding stop (set from 1 to 99 sec)

### ■ How to Set the Operation of the DC Fan (default: 70)

- Pressing the UP/DOWN button lights up all of the Initial, Operation, and Stop LEDs and displays the settings of the fan operation on the LED Display.
- Pressing the Setting button for 5 seconds or more with the value displayed causes numeric values to blink on the display.
- Keep pressing the UP/DOWN button until the desired time is displayed. (If there is no input signal for ten seconds, the setting is automatically returned to the default configuration and stored.)
- Fan operation setting (set from 10 to 99 seconds)

## Aux. Controller (HOT-4000P) – for firewood function

Name		Symbol	Function	
Power/Restart			* Power off, restarting	
Setting			* Used for every setup	
Fuel feeding ON/OFF			Power ON	No function operating
			Power OFF	Press the button for 5 seconds to switch to manual mode.
FAN ON/OFF			Power ON	No function operating
			Power OFF	Press the button for 5 seconds to switch to manual mode.
			* Manual ON/OFF of fuel feeding in manual mode	
			* Turn ON for 3 min. only in manual mode; the duration is displayed in minutes.	
			* Turn the power button ON and then OFF to release the manual mode.	
UP/DOWN (-/+)				
Fuel feeding LED			* Not lighting	
FAN LED			* Lights up upon sensing fan load	
LED	Initial time		* Setting the fan to strong or weak operation lights up all of the LEDs.	
	Operation hours			
	Stop Time			
Operation/Alarm LED			* Blinks upon alarm triggering (0.5 sec. ON, 0.5 sec. OFF)	
LED DISPLAY			* Displays the water temperature and strong/weak operation of the fan * Displays increment by 1°C (0°C ~ 99°C) (Time displayed in manual mode)	

The actual product may differ from the images in the manual.

## Aux. Controller (HOT-4000P) – Firewood function

### ■ How to Set the Fan Operation (Default value is 30)

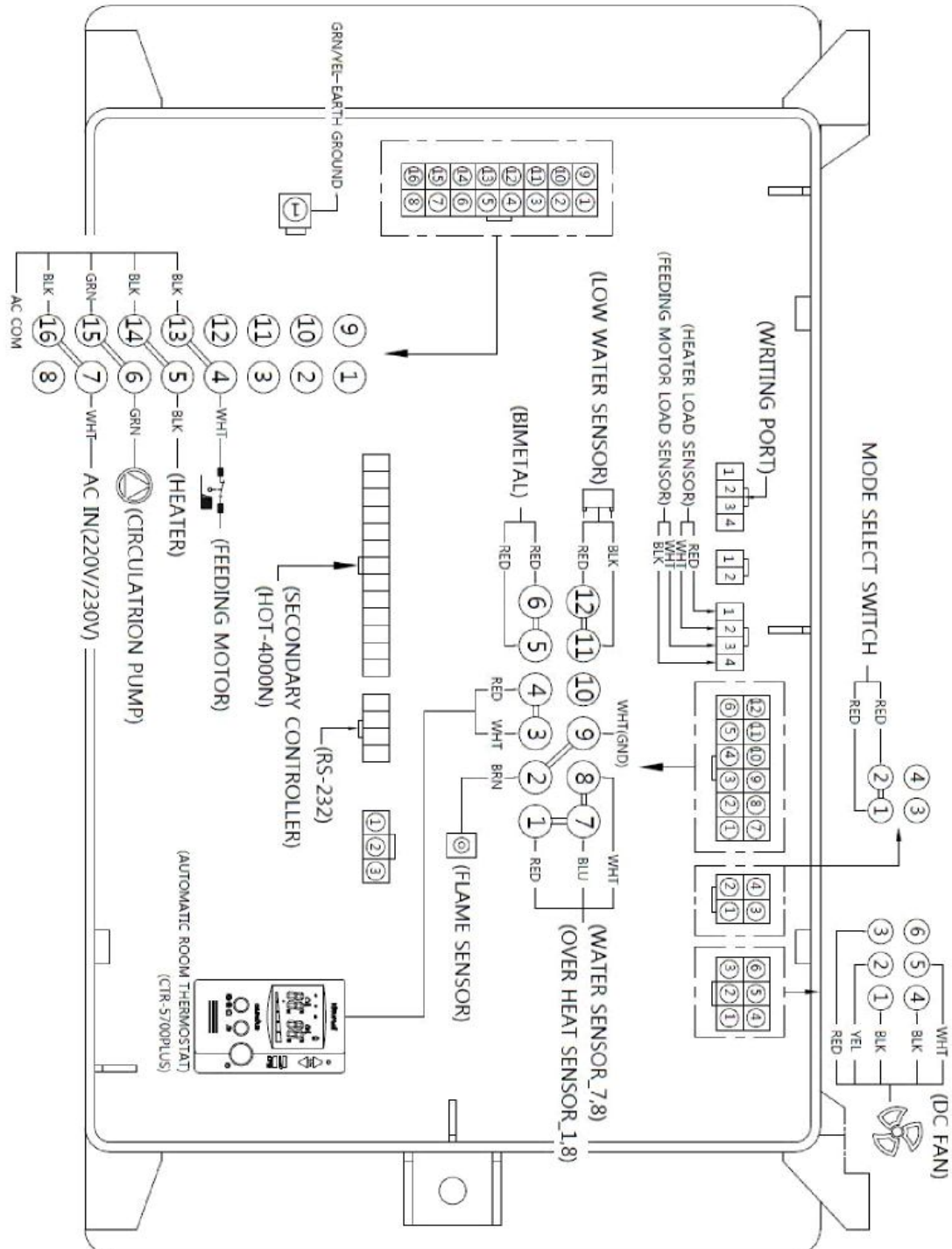
- HOT 4000P LED displays the water temperature by default.
- Pressing the UP/DOWN button lights up all of the LEDs and displays the settings of the fan operation on the LED Display.
- Pressing the Setting button for 5 seconds or more causes numeric values to blink on the display.
- When the values blink on the display, keep pressing the UP/DOWN button until the desired time is displayed.

(If there is no input signal for ten seconds, the setting is automatically returned to the default configuration and stored.)

- Fan operation setting is available from 15 to 99 seconds

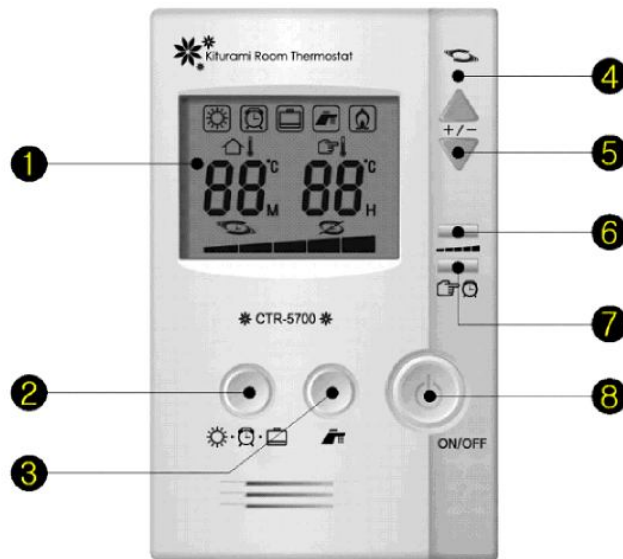
# Main Controller (PW-140)

## Electronic Diagram



The actual product may differ from the images in the manual.

# Room Controller – Indication and Name



## ① Function display window

– It displays operation ready, current temperature, temperature setting, reserved operation and stoppage time, combustion, season selection, and fault diagnosis number.

## ② Button for room, reservation, and outing

– It is used for selecting among room, reservation, and outing functions.

## ③ Bath button

– It is used for selecting the bath function.

## ④ Operation display

– It turns on the lamp when the boiler runs for each function.

## ⑤ Up/Down button

– It is used to adjust the settings for each function.

## ⑥ Season (temperature) selection button

– It is used for setting the hot water temperature.

## ⑦ Reservation button

– It is used for adjusting the reserved operation and stoppage time.

## ⑧ Power button

– Used to turn power on or off, it is used to turn on the boiler after fixing the fault. (The boiler can be restarted three consecutive times, and then started again after five minutes.)



# Room Controller – Indoor Function

## ■ How to use the room function

1) Select Room from [Room, Reservation, Outing]. Each time the button is pressed, Room, Reservation, and Outing will be displayed in order.



2) Set the desired room temperature. by pressing the up(▲) / down (▼) button.



3) Set the water temperature by pressing the season button.



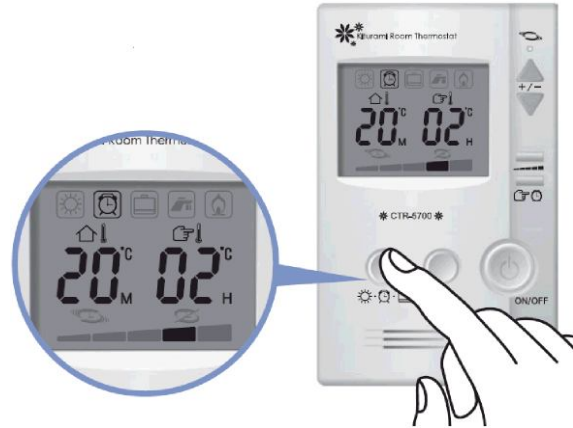
## ☞ What is the season selection function?

It is a function of setting the water temperature when the Room or Reservation function is selected. The water temperature is set to 45°C in summer, 55°C in fall, 65°C in spring, 75°C in early winter, and 80°C in winter.

# Room Controller – Reservation Function

## ■ To use the reservation function

- 1) Select Reservation from [Room, Reservation, Outing]  
(It will turn on and start reservation operation for the already set duration).  
☞ For example, it will run for 20 minutes, stop for 2 hours, and then run for 20 minutes again.



### ▶ Changing the reserved operation time

- 1) Select Reservation and adjust the time by pressing the up(▲) / down(▼) button.  
– If the setup is ended at this stage, the reserved stoppage time will be applied first.



- 2) If you want to adjust the reserved stoppage time, press the reservation button one more time.

#### • Method of adjusting the reserved stoppage time •

Once it returns to the reservation function, and the stoppage time blinks, adjust it by pressing the up(▲) / down(▼) button.

☞ If the setup ends at this stage, the reserved stoppage time will be applied first.

- 3) If you want to adjust the reserved operation time, press the reservation button one more time.

### ☞ Using the reservation function

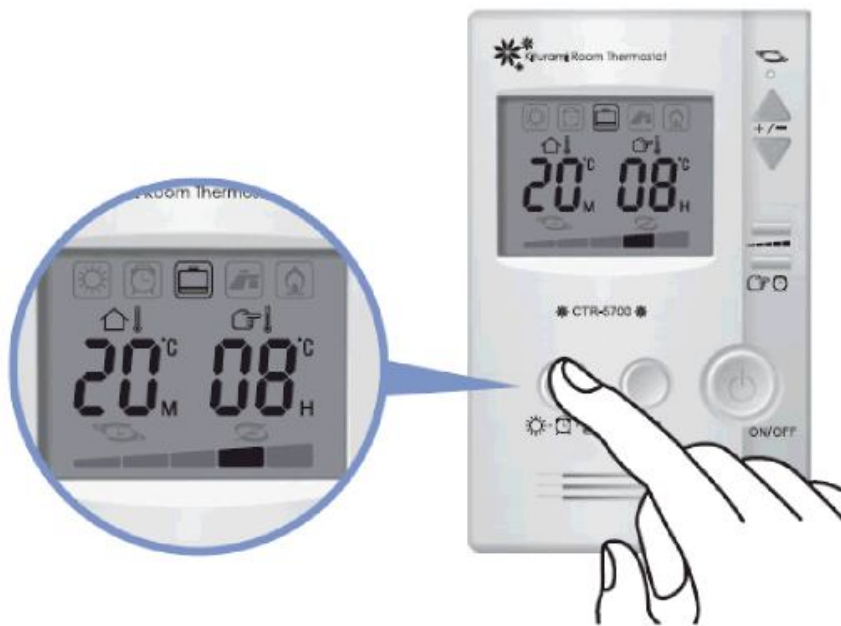
▶ By using the reservation function, you can arrange the operation and stoppage time in the optimal range to save on operation cost. (Set the operation and stoppage time depending on the season and insulation level of your house.)

# Room Controller for Outing Function

## ■ How to use the outing function

1) Select the Outing form [Room, Reservation, Outing].

(The outing function maintains the minimum room temperature to prevent freezing of the boiler and rooms.)



## 👉 What is the freezing prevention function?

▶ The freezing prevention function prevents the boiler itself and pipes from freezing by maintaining circulation at a certain temperature. During outing, the boiler should be plugged into the wall, and the gas valve should be open (supplying gas).

※ During severely cold weather, you can prevent the boiler from freezing by setting the room temperature in the range of about 10~15°C.

▶ The freezing prevention function does not work in the following circumstances:

- When there is power outage, or the boiler is unplugged
- When the insulation of the incoming water pipe or exposed pipes is in poor condition

# Room Control – Bath Function

※ For the boiler for both hot water and heating

## ■ Using the bath function

1) To use lots of hot water, select bath by using the bath button.

2) 2 1/2 hours after selecting the bath function, it returns to the previous function.

3) If the line water pressure is above 196Kpa (2kgf/cm<sup>2</sup>), install a pressure-reducing valve.



## ■ What is the temperature setting function?

1) It sets the output water temperature in the Room, Reservation, and Outing functions; configure the desired temperature in the bath function as the set temperature.



## ■ Setting the hot water temperature

- 1) Select the Bath function by using the bath function button.
- 2) Select the temperature by pressing the up(▲) / down(▼) button.
- 3) In the temperature setting function, the range of temperature is 35~60°C.

## ☞ Cautions while using the Bath function.

- Take care against burns caused by the hot water.
- Take care when opening the water tap after setting the bath function, since hot water may come out suddenly.
- Extra caution is required so that the sick and aged and children are not burned by the hot water.
- The water from the boiler is not potable.
- During heating (indoor operation), after hot water is used for a long time, lukewarm water may come out.
- During the bath function, if power is turned off and on, it will return to the pre-bath function.

# Trial Run

## ■ Sequence of Trial Run



The following conditions shall be checked before the trial run:

- ▶ Does the boiler operate normally? ▶ Is the ventilation in the boiler room good?
- ▶ Has every device been installed correctly? ▶ Is the burner securely fastened to the boiler body?

1. Connect the power plug of the product to the receptacle.
2. Turn the switch of the heater breaker on the left of the controller to ON position.
3. Make sure that power is supplied to the aux. controller and the room controller.
4. Fill the hopper with fuel (min. 25 kg).
5. Turn the power switch of the aux. controller to OFF position and keep pressing the fuel feeding button for 5 seconds or more to operate the fuel feeder manually. Fuel is fed for approx. 1 minute.
6. Once fuel is fed to the burner, press the Manual Fuel Feeding button or the power button to stop fuel feeding.
7. Turn the power switch of the aux. controller to ON position, and then set the temperature on the indoor controller to higher than the current temperature.
8. Make sure that the boiler operates normally, and that the circulation pump is turned on and off alternately.
9. If the boiler does not operate normally, refer to "Error Code & Troubleshooting" to take corrective action or call the manufacturer to request for service.

# 1. Precautions for Operation

## ■ General Precautions

1) Use a receptacle used only for power supply to the product to prevent leak.

- The rated power is AC 230V/50 Hz; check the voltage before supplying power.
- Do not touch the power cable or operate the product with wet hands (may cause electric shock). Do not clean the product with water.

(Risk of leak and shock or product malfunction may occur).

2) Do not keep combustible or ignitable substances near the boiler.

- Keep the fire extinguisher in the boiler room.
- Do not keep lumber or flammable or ignitable substances in the vicinity of the boiler. Keep the surroundings of the boiler clean and neat.

3) The user shall neither disassemble, repair, nor modify the product arbitrarily.

- Shock or fire may occur.
- If repair is required, call the customer center of the manufacturer.

4) Do not place your hands on the door or the exhaust port during operation of the product.

- May cause burn

5) Precautions for the use of the bath function:

- Take care against burns when using hot water.
- Do not use the water as drinking water.
- Please note that hot water may suddenly come out when opening the faucet after setting the bath function.
- Care shall be taken to protect the elderly or children from burns.

## ■ Precautions for Maintenance

1) Prevent the product from rupture due to freezing in winter season.

- The product is kept connected to the pipes, which are fully filled with water. Be sure to connect the power cable to the receptacle. If water in the pipes is deficient, fill the pipes with water in accordance with the water makeup method.

If the freezing prevention circuit operates with the pipes not sufficiently filled with water, idle running of the pump may cause overheat or failure of the pump.

- Fully insulate the pipes.

• Take adequate actions for preventing rupture due to freezing in areas with cold weather, such as wrapping the exposed pipes with heating elements. (Installing and insulating the exposed pipes together with heating pipes are also recommended.)

- Do not wrap the drain valve with insulation.

• If you will not operate the boiler for a prolonged period of time, drain the boiler to prevent rupture due to freezing and disconnect the power cable.

- Wrap exposed pipes with insulation 25 mm or thicker to prevent the pipes from freezing.

(50 mm or more in areas with cold weather)

• If you leave the boiler for an extended period of time, slightly open the faucet for hot water in the kitchen to allow the flow of a small volume of hot water into the hot water pipes to protect the city water pipe from rupture due to freezing.

2) The boiler shall be inspected annually.

- Call your service center for regular inspection.

• Regular inspection ensures safe operation of the product.

- Request for regular inspection once a year for the cleaning of the chimney and burner of the boiler.



# Precautions for Operation



## ■ Precautions for Use of Pellet Fuel

1) Keep pellets away from water or moisture.

- Pellets exposed to water or moisture may be degraded to powder form, losing its function as fuel.

Putting powder pellet into the hopper may cause serious troubles in the capabilities of the burner such as output reduction and mass generation of ash.

2) Use the fuel specified in the product specifications (Page 5).

- Defect of the burner caused by the use of low-cost pellet fuels commonly available in the market may void the warranty services.

- Use only pellets with diameter of 6 mm or more.

2) Do not allow foreign materials to be mixed into the fuel.

- When pouring the fuel into the fuel storage tank, prevent gloves or bark from entering the tank.

- Foreign matter may cause failure of the product and safe shutdown function (Error 03).

- Remove foreign materials, if any, and then start the product again.

# Maintenance

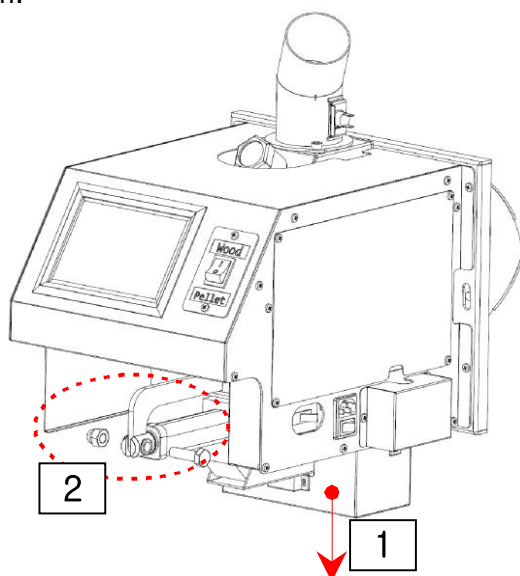


The following conditions shall be checked before maintenance:

- ▶ Are you sure you have stopped operation of the burner 30 minutes earlier? (to prevent burns)
- ▶ Is power to the burner shut down? (to prevent shock)

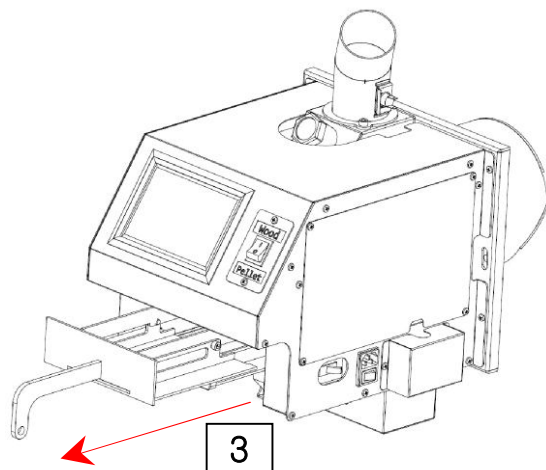
## ■ How to Clean the Burner (twice a month)

1. Pull the ash tray from the bottom of the burner in the arrow direction and remove foreign matter from the bin. Afterward, put back the bin.

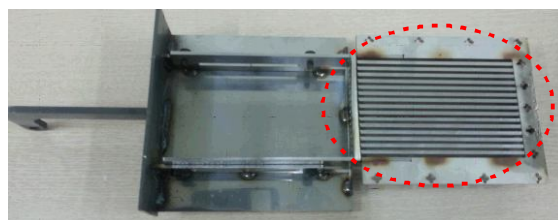


2. Loosen and remove the M10 bolts (encircled).

3. Pull and remove the fire grate in the arrow direction.



4. Use a brush to remove foreign materials from the areas shown in the figure below.

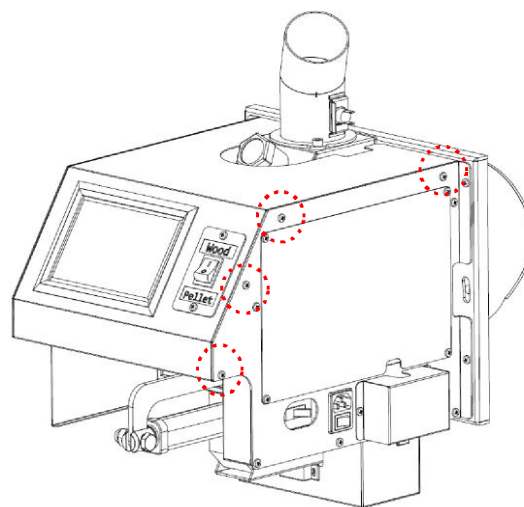


5. Assemble the fire grate in reverse order of disassembly.

## ■ How to Replace the Ignition Heater

1. Loosen the screws from the areas shown in the figure and remove the front and side casings.

(Remove the controller lid as well to disconnect the wires connected to the aux. controller and function conversion switch.)





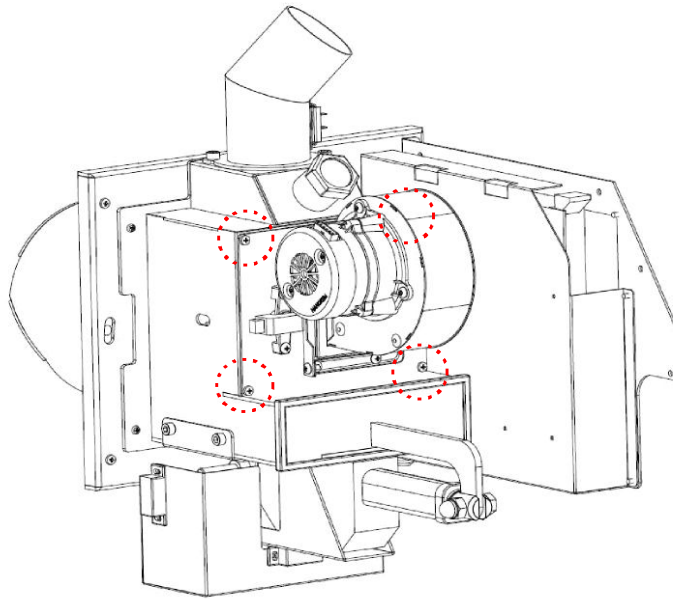
# Maintenance



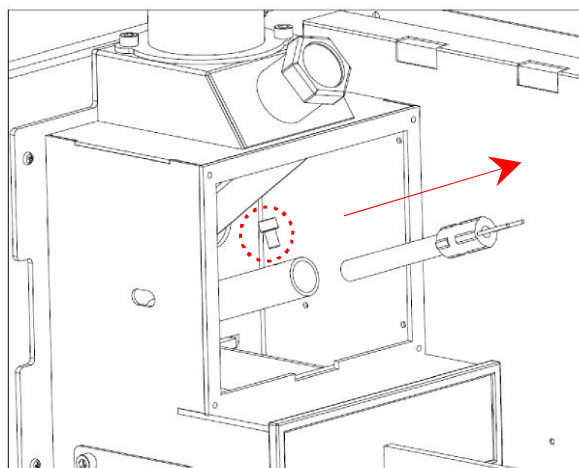
The following conditions shall be checked before maintenance:

- ▶ Are you sure you have stopped operation of the burner 30 minutes earlier? (to prevent burns)
- ▶ Is power to the burner shut down? (to prevent shock)

2. Disconnect the wires connected to the fan and the flame sensor and loosen the screws from the points indicated in the figure to remove the blocking plate of the air chamber.



3. Loosen the M6 wrench bolt to replace the ignition heater.



4. Assemble the heater in reverse order of disassembly.

# ERROR CODE LIST & TROUBLESHOOTING

ERROR CODE	ERROR CODE DESCRIPTION	CHECKLIST
01	Not detecting flame normally	Broken Photocell sensor
		Not enough fuel in the tank
02	Supplied electricity, but heater not working	Check heater for short (infinity resistance means short)
		Broken load detector for heater
03	Clogged fuel in feeding pipe (Limit switch on feeding pipe activated)	Excessive fuel supply (adjust the fuel supply)
		Fuel not supplied due to excessively low fuel hose
		Broken limit switch on feeding pipe
04	Water temperature sensor not reading temperature measurements	Defective or broken water temperature sensor
06	Not reading the blower RPM	Defective or broken blower connection
07	Blower RPM out of range	Clogged tubes or flue
08	Poor communication with room thermostat	Defective or broken connection with room thermostat
91	Not detecting flame after ignition	Clogged tubes or flue
		Improper cleaning of ash cleaner
95	Not sensing low water level in the heat exchanger	Defective earth connection (black color) or low water level sensor
96	Sensor sensing more than 91 °C water temperature	Defective circulation pump operation or poor plumbing
98	Activation of over heating bimetal on burner parts	Poor sealing of fuel parts and defective burner

# ERROR CODE LIST & TROUBLESHOOTING

## ■ Troubleshooting of each Failure Type

### ○ If pellet is not ignited

Error code	Failure type	Troubleshooting	Remarks
01	1. The fuel feeding screw failed.	① Remove and check the feeding motor assembly. ② Check the screw for mechanical damage and replace the screw if required.	
	2. The fuel feeding motor failed.	① Check the motor if it is operating normally when power (230V) is supplied from the controller. ② Otherwise, replace the fuel feeding motor.	
	3. Insufficient fuel in the hopper	① Check the fuel stage hopper if fuel is sufficient. ② If not, fill the hopper with fuel up to the fuel supply line.	
	4. Foreign matter caught in the screw	① Check the fuel feeding screw for foreign matter caught in the screw. ② Remove foreign matter, if any (e.g., gloves and bark).	
	5. Failure of the photo sensor	① Check the photo sensor if it is operating normally. (Make sure that the power is DC 2.5V or lower during ignition.)	
	6. Defective fuel	① Remove congealed fuel exposed to humidity.	

### ○ Short-Circuit of Feeding Motor and Electric Heater

Error code	Failure type	Troubleshooting	Remarks
02	1. Short-circuit of the ignition heater	① Check the wire of the heater for any damage. ② Measure the insulation resistance with a multi-tester. ③ Replace the heater if the wire is disconnected.	Normal Temperature resistance (33.5~49.13Ω)(3.5 - 49.13Ω)
03	2. The fuel feeding motor failed.	① Check the fuel micro switch if it is operating normally. ② Check the sensing switch for any foreign matter (e.g., gloves and bark) caught in it. ③ Check the wiring of the fuel feeding motor.	

# ERROR CODE LIST & TROUBLESHOOTING

## ○ Disconnection of temperature sensor and overheat sensor

Error code	Failure type	Troubleshooting	Remarks
04	1. Water temperature sensor disconnected	① Check the water temperature sensor for correct connection. ② Check the wire for any damage. ③ Replace the temperature sensor.	
05	1. Overheat sensor disconnected	① Check the overheat sensor for correct connection. ② Check the wire for any damage. ③ Replace the temperature sensor.	
	2. Door-opening sensor disconnected	① Check the burner doors if they are kept opened. ② Check the door-opening sensor and the wire for damage. ③ Replace the sensor if the sensor operates even after earthing the sensor.	

## ○ Defective Transmission and Receiving

Error code	Failure type	Troubleshooting	Remarks
06	1. Rotation rate of the fan not sensed	① Check the fan wire for any damage. ② Replace the fan.	
06	1. Low limit High limit	① This error may occur if the chimney is installed in the wind pressure zone and the wind is strong when the rotation rate of the fan is high. If this error persists, call your contractor to change the position of the chimney. ② Remove condensates when there is frost in the elbows of the chimney. ③ Call your local sales agent or service center for troubleshooting. ※ This error may occur regardless of the rotation rate of the fan when foreign materials are caught in the fan.	
08	1. Defective transmission and receiving	① Defective communication between the room controller and the main controller : Ignition cycle OFF ② If the trouble persists for 10 minutes or more, "Error 08" is displayed, and the power LED blinks. ③ Replace the room controller or the main controller.	

# ERROR CODE LIST & TROUBLESHOOTING

## ○ Low level or overheat error

1) Symptom: Sensing temperature of 90°C or higher by the water temperature sensor/Sensing temperature of 91°C or higher by the overheat sensor

2) Recovery: Manual recovery when sensing temperature of 85°C or lower by the water temperature sensor/Sensing temperature of 86°C or lower by the overheat sensor

Error code	Failure type	Troubleshooting	Remarks
95	1. Low level of water	① Check the makeup water level. ② Check the heat exchanger or the pipe for leak. ③ Replace the low level sensor.	
96	1. Circulation pump inoperable	① Check the coil of the circulation pump for short circuit Resistance measurement of "0" stands for normal operation, and "Infinite," for short circuit. Replace the circulation pump.	
	2. Rapid rise of temperature because the heating valve is kept closed	① Check the distributor valve if it is kept closed. If it is, open the valve.	
	3. Controller failure	① If the feed motor continuously operates even in fuel feed stop mode, replace the controller.	

## ○ Operation of backfire overheat (bimetal) sensor of the burner

Error code	Failure type	Troubleshooting	Remarks
98	1. Chimney clogged	① Separate the pit from the chimney. ② Check the chimney for clogging and remove foreign matter, if any.	
	2. Chimney without T-type smokestack subject to head wind	① Install a T-type smokestack on the chimney to prevent head wind.	
	3. Smoke pipe clogged	① Stop the operation of the boiler. ② Open the door of the cleaning port. ③ Remove the baffle and use a cleaning brush to clean the smoke pipe.	

The actual product may differ from the images in the manual.

# ERROR CODE LIST & TROUBLESHOOTING

## ○ Defective automatic cleaning function

Failure type	Troubleshooting	Remarks
<p>1. When ash is not automatically removed from the automatic ash cleaner</p>	<p>① Check with a multi-tester if the rated voltage is DC 24V when supplying power.</p> <p>② Check the fire grate for any foreign matter caught in it. Remove the foreign matter, if any, and operate the boiler again.</p> <p>① Check the fire grate of the burner doors for deformation.</p> <p>③ In case of deformation, call your service center for troubleshooting.</p>	

# Warranty

## – Instructions for customers and warranty conditions–

- Claims regarding the completeness of delivery must be in accordance with the Commercial Code and Civil Code of the supplier.
- Damage and defects due to transport must be claimed by customers with a carrier after the takeover of the product.
- The warranty period is 24 months from the date of purchase.
- The warranty is valid if the boiler is commissioned by an authorized serviceman.
- The warranty is valid if all electric equipment are connected according to the instructions by a trained specialist and if recorded in the relevant documents.
- The warranty applies to construction, material used, and product manufacture.
- The transportation cost of the serviceman is not included in the warranty repair (to be paid by the customer in full).

## – The warranty does not apply to the following –

- Consumer material: door seal, seal of exchanger cap, seal under fan, heatproof nozzle, heat proof / concrete/ filling, heatproof bricks,
- defects caused by the customer,
- defects due to failure to follow the assembly instructions, incorrect operation and
- maintenance, or if the product is used contrary to the instruction and for purposes other than that specified in normal conditions; incorrect or unauthorized handling.
- Otherwise, the warranty follows the relevant provisions of the Civil Code.

# Memo



# Kiturami

## Wood Pellet Burner

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